

Mr. Wade Baker
Carpenter Company
P.O. Box 175
Ferdinand, Indiana 47532

Dear Mr. Baker:

Re: Exempt Construction and Operation Status,
037-12185-00080

The application from Carpenter Company, received on April 19, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following flexible polyurethane foam fabrication operation, to be located at 130 Scenic Hills Industrial Drive, Ferdinand, Indiana, is classified as exempt from air pollution permit requirements:

- (a) One (1) adhesive application facility, with a maximum usage rate of 1.83 pounds of adhesive per hour, using high volume low pressure (HVLP) spray application.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute non-overlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the adhesive operation shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

This exemption is the second air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

LQ/EVP

cc: File - Dubois County
Dubois County Health Department
Air Compliance -Gene Kelso
Permit Tracking - Janet Mobley
Air Programs Section- Michelle Boner

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: Carpenter Company
Source Location: 130 Scenic Hills Industrial Drive, Ferdinand, IN 47532
County: Dubois
SIC Code: 3086
Operation Permit No.: 037-12185-00080
Permit Reviewer: Linda Quigley/EVP

The Office of Air Management (OAM) has reviewed an application from Carpenter Company relating to the construction and operation of a flexible polyurethane foam manufacturing facility.

Permitted Emission Units and Pollution Control Equipment

- (a) One (1) adhesive application facility, with a maximum usage rate of 1.83 pounds of adhesive per hour, using high volume low pressure (HVLP) spray application.

Note: This facility receives polyurethane foam from an outside source. The only emissions are from the adhesive operation.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) CP 037-3395-00080, issued on May 13, 1994

Note: In September 1997, the source had changed the adhesive to a water base adhesive with no emissions, therefore a permit renewal was not required. The source has now changed its adhesive to a solvent-based adhesive.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on April 19, 2000, with additional information received on July 21, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 and 2).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	1.48
PM-10	1.48
SO ₂	0.00
VOC	2.08
CO	0.00
NO _x	0.00

HAP's	Potential To Emit (tons/year)
Trichloroethylene	2.08
TOTAL	2.08

- (a) The potential to emit of all pollutants is less than the levels specified in 326 IAC 2-1.1-3. Therefore, the source is exempt.

Actual Emissions

No previous emission data has been received from the source.

County Attainment Status

The source is located in Dubois County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Dubois County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Dubois County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.0
PM10	0.0
SO ₂	0.0
VOC	0.0
CO	0.0
NO _x	0.0

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on documentation that the source had changed to a water based adhesive which had no emissions.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)	Single HAP (ton/yr)	Total HAPs (ton/yr)
Proposed Modification	1.48	1.48	0.0	2.08	0.0	0.0	2.08	2.08
PSD or Offset Threshold Level	250	250	250	250	250	250	N/A	N/A

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this Exemption 037-12185-00080, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-4.1 (New Source Toxics Control)

This rule applies to new or reconstructed facilities with potential emissions of any single HAP equal to or greater than ten (10) tons per year and potential emissions of combination of HAPs greater than or equal to twenty-five (25) tons per year. Since this facility emits less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of combination of HAPs, the requirements of 326 IAC 2-4.1 do not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in Dubois County and the potential to emit all criteria pollutants is less than twenty-five (25) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the adhesive operation shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

26 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The requirement to reduce VOC emissions using the Best Available Control Technology (BACT) does not apply to this facility because VOC emissions are less than twenty-five (25) tons per year.

No other Article 8 rules apply.

Conclusion

The construction and operation of this flexible polyurethane foam manufacturing facility shall be subject to the conditions of the attached proposed **Exemption 037-12185-00080**.

**Appendix A: Emissions Calculations
VOC and Particulate
From Adhesive Operations**

Company Nai Carpenter Company
Address City 130 Scenic Hills Industrial Drive, Ferdinand, IN 47532
CP: 037-12185-00080
Pit ID: 037-00080
Reviewer: LQ/EVP
Date: August 3, 2000

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Adhesive Application															
1577T Whisper Spray	11.15	26.00%	0.0%	26.0%	0.0%	74.00%	0.16	2.90	2.90	0.48	11.41	2.08	1.48	3.92	75%

State Potential Emissions

0.48 11.41 2.08 1.48

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Appendix A: Emission Calculations
HAP Emission Calculations

App. A page 2 of 2

Company Name: Carpenter Company
Address City IN Zip: 130 Scenic Hills Industrial Drive, Ferdinand, IN 47532
CP#: 037-12185-00080
Plt ID: 037-00080
Permit Reviewer: Linda Quigley/EVP
Date: August 3, 2000

Material	Density (Lb/Gal)	Gallons of Material (gal/hour)	Weight % Trichloroethylene	Trichloroethylene Emissions (ton/yr)
1577T Whisper S	11.15	0.164000	26.00%	2.08

Total State Potential Emissions **2.08**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/hour) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs